

What is claimed is:

1. A member having a metal layer, the member mainly composed of one of silicon and silicon oxide, comprising:

5 a plurality of overhanging depressions created on a surface of the member;

an anchor layer formed by filling the depressions; and

10 a metal layer formed on the anchor layer.

2. A member having a metal layer according to Claim 1, wherein a depth of the depressions is 1  $\mu\text{m}$  to 4  $\mu\text{m}$ .

15 3. A member having a metal layer according to Claim 1, wherein the number of the depressions is 1 to 4 per linear 15  $\mu\text{m}$  on the surface of the member.

20 4. A member having a metal layer according to Claim 1, wherein the anchor layer is composed of Ni and at least one of P and B.

25 5. A member having a metal layer according to Claim 1, wherein the metal layer contains Au.

6. A member having a metal layer according to Claim 1, wherein a thickness of the anchor layer is at least 1  $\mu\text{m}$ .

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7. A member having a metal layer according to Claim 1, wherein a thickness of the metal layer is at least 50 nm.

10 8. A member having a metal layer according to Claim 1, wherein the member is a quartz ferrule.

15 9. A module comprising a member having a metal layer according to Claim 1, the member being attached to another member by metal bonding.

20 10. A member having a metal layer according to Claim 1, wherein the member is composed of silicon and further comprises an oxide layer on a surface thereof.

25 11. A method of fabricating a member having a metal layer, comprising:

a step of creating a plurality of

overhanging depressions on a surface of a member mainly composed of one of silicon and silicon oxide;

5 a step of forming an anchor layer on the surface having the depressions by filling the depressions; and

a step of forming a metal layer above the surface of the member with the anchor layer interposed therebetween.

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12. A method of fabricating a member having a metal layer according to Claim 11, the step of creating a plurality of overhanging depressions comprising:

15 a step of physically grinding the surface of the member; and

a step of chemically etching the surface of the member, the step being subsequent to the step of physical grinding.

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13. A method of fabricating a member having a metal layer according to Claim 12, wherein the step of chemical etching uses an etchant containing oxidizer.

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14. A method of fabricating a member having

a metal layer according to Claim 11, wherein the step of forming an anchor layer and the step of forming a metal layer employ electroless plating.

5           15. A method of fabricating a member having a metal layer according to Claim 11, wherein the member is composed of silicon, and the method further comprises a step of oxidizing the surface of the member between the step of creating 10 depressions and the step of forming an anchor layer.

16. A method of plating on a surface of a member, comprising:

15           a step of creating a plurality of overhanging depressions on a surface of a member mainly composed of one of silicon and silicon oxide; and

20           a step of forming a plating layer above the surface of the member, the step being subsequent to the step of creating depressions.